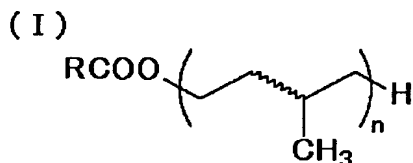


What is claimed is:

1. An improver for bone metabolism comprising, as the active ingredient, chain isoprenoid fatty acid esters represented by the following general formula (I):



wherein R represents an arbitrary hydrocarbon functional group, the wavy line means a single or double bond and n represents an integer ranging from 1 to 14, provided that when n is 2 or higher, the wavy lines may be the same or different.

2. The improver for bone metabolism of claim 1, wherein it comprises the following components (A) and (B):

(A) chain isoprenoid fatty acid esters represented by the general formula (I); and

(B) at least one member selected from the group consisting of pharmaceutically acceptable bases, carriers, excipients, binders, disintegrators, lubricants, coloring agents, pH controlling agents, buffering agents, stabilizers, solubilizing agents, film-forming agents, diluents, slurry-forming agents, tackifiers, emulsifying agents and surfactants.

3. An inhibitor for bone absorption comprising chain isoprenoid fatty acid esters represented by the general formula (I) set out in claim 1.

4. An promoter for bone formation comprising chain isoprenoid fatty acid esters represented by the general formula (I) set out in claim 1.

5. The improver for bone metabolism of claim 1, wherein the fatty acid constituting the chain isoprenoid fatty acid esters has 2 to 30 carbon atoms.
6. The improver for bone metabolism of claim 5, wherein the fatty acid constituting the chain isoprenoid fatty acid esters is a linear unsaturated fatty acid.
7. The improver for bone metabolism of claim 6, wherein the linear unsaturated fatty acid constituting the chain isoprenoid fatty acid esters is a member selected from the group consisting of n-6 type unsaturated fatty acids, n-3 type unsaturated fatty acids and conjugated fatty acids.
8. The improver for bone metabolism of claim 7, wherein the n-6 type unsaturated fatty acid constituting the chain isoprenoid fatty acid esters is a member selected from the group consisting of linoleic acid, γ -linolenic acid, bis-homo- γ -linolenic acid and arachidonic acid.
9. The improver for bone metabolism of claim 7, wherein the n-3 type unsaturated fatty acid constituting the chain isoprenoid fatty acid esters is a member selected from the group consisting of α -linolenic acid, stearidonic acid, eicosatetraenoic acid, eicosapentaenoic acid, docosapentaenoic acid and docosahexaenoic acid.
10. The improver for bone metabolism of claim 7, wherein the conjugated fatty acid constituting the chain isoprenoid fatty acid esters is a member selected from the group consisting of conjugated linoleic acid and α -eleostearic acid.
11. The improver for bone metabolism of claim 1, wherein the alcohol constituting the chain isoprenoid fatty acid esters is a member selected from the group consisting of geraniol, farnesol,

geranyl geraniol, phytol and dihydrophytol.

12. The improver for bone metabolism of claim 1, wherein the alcohol constituting the chain isoprenoid fatty acid esters is one derived from vegetable oils and fats.

5 13. The improver for bone metabolism of claim 1, wherein n is 2 to 4 in the general formula (I).

14. The improver for bone metabolism of claim 1, wherein n is 4 in the general formula (I).

15. The improver for bone metabolism of claim 1, wherein the chain
10 isoprenoid fatty acid esters is a member selected from the group consisting of geranyl-geranyl fatty acid esters, phytyl fatty acid esters and dihydrophytyl fatty acid esters.

16. The improver for bone metabolism of claim 1, wherein the chain
15 isoprenoid fatty acid esters is one derived from vegetable oils and fats.

17. A prophylactic or therapeutic agent for osteoporosis comprising, as the active ingredient, chain isoprenoid fatty acid esters represented by the general formula (I) set out in claim 1.

18. An agent for the skin for improving bone metabolism
20 comprising, as the active ingredient, chain isoprenoid fatty acid esters represented by the general formula (I) set out in claim 1.

19. A food or beverage for improving bone metabolism comprising, as the active ingredient, chain isoprenoid fatty acid esters represented by the general formula (I) set out in claim 1.

25 20. The food or beverage for improving bone metabolism of claim 19, wherein the food or beverage is a processed food.

21. The food or beverage for improving bone metabolism of claim 20, wherein the processed food is a blend oil and fat or a food prepared by adding oils and fats to food materials.